Amendments to the Specification:

Please replace paragraph [0022] with the following amended paragraph:

[0022] ~~FIG. 7 is a graph~~ FIGS. 7A and 7B are graphs showing the calculations for the magnetized state of a GMR head.

Please replace paragraph [0023] with the following amended paragraph:

[0023] ~~FIG. 8 is a graph~~ FIGS. 8A-8C are graphs showing the calculations for the magnetized state at ΔBst = about 2 nmT.

Please replace paragraph [0040] with the following amended paragraph:

[0040] [[FIG. 7 shows]] FIGS. 7A and 7B show calculations for the magnetization state of a GMR head according to a micro-magnetics model. The abscissa shows a difference ΔBst between the product of a saturation magnetic flux density Bst and a film thickness t of the first magnetic film 31 and that of the second magnetic film 33, and the ordinate shows reading efficiency in FIG. 7A. This is due to an increase in the average rotational angle of the free layer, as seen in FIG. 7B.

Please replace paragraph [0041] with the following amended paragraph:

[0041] FIG. 8C shows a magnetization state at ΔBst = about 2 nmT. Further, for comparison, a magnetization state with the single layered film is also shown in FIG. 8B. This evidently shows that the single layered film (FIG. 8B) offers large magnetization at the central portion of the track, higher sensitivity at the central portion of thereof, and lower sensitivity at the ends thereof, whereas the stacked ferromagnetic free layer 30 (FIG. 8C) offers improved sensitivity distribution within the track width, reduced non-uniformness of the magnetization rotation within the track width, and thereby improved sensitivity. FIG. 8A shows the average rotational angle of the free layer. According to our study, it is difficult to reduce the thickness of the single layered film for effectively exercising the magnetic domain control and about 4 nmT is required at the minimum for stably operating ΔBst (film thickness difference). On the other hand, in the stacked ferrimagnetic free layer 30, the magnetic

domain can be controlled even at 1 nmT and magnetic instability such as fluctuation of the output is not caused. That is, smaller Bst can be attained by the stacked ferrimagnetic free layer. As apparent from the calculation, it can be seen that the maximum value is reached at 2 nmT. To satisfy 1 mV of output demanded by the apparatus, a reading efficiency of 10% or more is necessary. That is, it is made clear that the optimal ΔBst in the stacked ferrimagnetic free layer 30 is within a range from 1 to 3 nmT.